



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,332	09/26/2003	Yong Cheol Park	0465-1029P	5101
2292 7590 11/28/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
DANIELSEN, NATHAN ANDREW				
ART UNIT		PAPER NUMBER		
2627				
NOTIFICATION DATE		DELIVERY MODE		
11/28/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/670,332

**Applicant(s)**

PARK ET AL.

**Examiner**

Nathan Danielsen

**Art Unit**

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-12 and 15-38 is/are rejected.  
7) ☒ Claim(s) 13 and 14 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date See Continuation Sheet  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :10/07/04, 02/05/08, 02/05/08, 03/27/08, 07/21/08, 08/08/08, & 09/16/08.

### **DETAILED ACTION**

1. Claims 1-38 are pending.

#### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Drawings***

3. Figures 1 and 2 should be designated by a legend such as --Prior Art-- or --Related Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5-7, 12, 15-17, 21, 27-32, and 36-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito et al (US Patent 5,715,221; hereinafter Ito '221).

Regarding claims 1, 21, and 36, Ito '221 discloses a method for managing an optical recording medium (as well as an optical recording medium and an apparatus for managing an optical recording medium) having at least one temporary defect management area (DMAs 1-4 in

figure 11; where each is "temporary" due to the updating of the SDL portion including the sorting rearrangement of addresses contained therein (col. 10, lines 5-13)), and at least one spare area in a data area (figure 11C), said method comprising:

replacing data written in a defective area by writing the data written in the defective area to the at least one spare area as replacement data if the defective area within the data area is detected (col. 2, lines 1-8); and  
writing defect management information in the at least one temporary defect management area for access to the data written in the spare area (col. 10, lines 5-13),  
wherein said defect management information for access to the data written in the spare area is identified by at least one navigation pointer (col. 14, lines 18-29 and figure 20).

Regarding claims 2, 24, and 37, lto '221 discloses everything claimed, as applied to claims 1, 21, and 36, respectively. Additionally, lto '221 discloses where:

in the writing step, the defect management information is written as defect list information in the at least one temporary defect management area (col. 14, lines 18-32), and  
the method further comprises managing the defect list information (figure 22),  
the defect list information includes navigation pointer information including defect entries corresponding to actual written replacement data (col. 14, lines 30-32), and  
writing location information of the next available spare area for successive replacement writing (col. 14, lines 18-29 and figure 20).

Regarding claims 5-7, 12, and 27-29, lto '221 discloses everything claimed, as applied to claim 2. Additionally, lto '221 discloses where the defect list information is temporary defect list information with a recording size smaller than four clusters (col. 1, lines 50-54; where each DMA is interpreted to be a single cluster, as defined by Maeda in Office Action ¶ 13), the recording size is two clusters or smaller (col. 1, lines 50-54; where each DMA is interpreted to be a single cluster, as defined by Maeda in Office Action ¶ 13), the defect list information has one cluster recording size (col. 1, lines 50-54; where each DMA is interpreted to be a single cluster, as

defined by Maeda in Office Action ¶ 13), and includes defect entries corresponding to the replacement data (col. 14, lines 30-32).

Regarding claims 15, 30, and 38, Ito '221 discloses a method for managing an optical recording medium (as well as an optical recording medium and an apparatus for managing an optical recording medium) having at least one temporary defect management area (DMAs 1-4 in figure 11; where each is "temporary" due to the updating of the SDL portion including the sorting rearrangement of addresses contained therein (col. 10, lines 5-13)), and at least one spare area in a data area (figure 11C), said method comprising:

replacing data written in a defective area of the data area in the at least one spare area in

place of the defective area as replacement data if the defective area within the data area is detected (col. 2, lines 1-8); and

producing defect list information and disc definition structure information in the at least one temporary defect management area for access to the data written in the at least one spare area as replacement data (col. 10, lines 5-13), and managing the defect list information and the disc definition structure information (col. 10, lines 5-13),

wherein the defect list information includes defect entries corresponding to the replacement data actually written, and the disc definition structure information includes writing location information of a next available sector of the spare area for replacement writing as at least one navigation pointer (col. 14, lines 18-29 and figure 20).

Regarding claims 16 and 31, Ito '221 discloses everything claimed, as applied to claims 15 and 30, respectively. Additionally, Ito '221 discloses where the defect list information includes a defect list terminator for indicating a termination of writing of defect entries (inherent in DMAs of Ito '221 for determining where the DMA ends).

Regarding claims 17 and 32, Ito '221 discloses everything claimed, as applied to claims 15 and 30, respectively. Additionally, Ito '221 discloses where the writing location information is writing location information corresponding to a first sector of a first cluster of the spare area

available for successive replacement writing of new replacement data (col. 14, lines 18-29 and figure 20).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 4, 10, 19, 22, 25, 26, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito '221, in view of applicant's admitted prior art (hereinafter the AAPA).

Regarding claims 3, 4, 25, and 26, Ito '221 discloses everything claimed, as applied to claims 2 and 24. However, Ito '221 fails to disclose the particular type of optical recording medium.

In the same field of endeavor, the AAPA discloses where the optical recording medium is a Blu-ray disc of writable once type (BD-WO) or a Blu-ray disc of read-writable type (BD-RW) (§s 3-8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the invention of Ito '221 with the optical recording medium of the AAPA, for the purpose of managing defect information on next generation optical recording mediums (§s 3-8).

Regarding claims 10, 19, 22, and 34, Ito '221 discloses everything claimed, as applied to claims 2, 15, 21, and 30, respectively. However, Ito '221 fails to disclose the specific type of optical recording medium, as well as the specific structure and format thereof.

In the same field of endeavor, the AAPA discloses where the optical recording medium is a single layer Blu-ray disc of writable once type having an inner spare area and an outer spare area assigned thereto (§s 3-5), and the defect list information includes writing location information of the inner spare area available for successive replacement writing of replacement data, and

writing location information of the outer spare area available for successive replacement writing of replacement data (¶¶ 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the invention of Ito '221 with the optical recording medium of the AAPA, for the purpose of managing defect information on next generation optical recording mediums (¶¶s 3-8).

8. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito '221, in view of Ito et al (US Patent Application Publication 2003/0137909; hereinafter Ito '909).

Regarding claim 8, Ito '221 discloses everything claimed, as applied to claim 2. However, Ito '221 fails to disclose where a recording size of the defect list information to be written is varied to a recording size greater than one cluster when the number of defect entries exceeds one cluster of recording size.

In the same field of endeavor, Ito '909 discloses where a recording size of the defect list information to be written is varied to a recording size greater than one cluster when the number of defect entries exceeds one cluster of recording size (¶¶s 88 and 89; where, if the size the spare area 107 is increased beyond the size of the spare areas 105, 106, and 106', the corresponding defect management would necessarily need to be increased in size to properly record defect and replacement sector positions).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Ito '221 with Ito '909, for the purpose of improving the reliability of data by providing additional spare areas (¶¶ 90).

Regarding claim 9, Ito '221, in view of Ito '909, discloses everything claimed, as applied to claim 8. However, Ito '221 fails to disclose where the recording size of the defect list information to be written is varied to a recording size greater than one cluster but smaller than four clusters.

In the same field of endeavor, Ito '909 discloses where the recording size of the defect list information to be written is varied to a recording size greater than one cluster but smaller than



four clusters (§s 88 and 89; where, if the size the spare area 107 is increased beyond the size of the spare areas 105, 106, and 106', the corresponding defect management would necessarily need to be increased in size to properly record defect and replacement sector positions, yet would not be capable of exceeding the space allocated therefore in the lead-out zone 104, as seen in figure 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Ito '221 with Ito '909, for the purpose of improving the reliability of data by providing additional spare areas (§ 90).

9. Claims 11, 20, 23, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito '221, in view of the AAPA, and further in view of Ito '909.

Regarding claims 11, 20, 23, and 35, Ito '221 discloses everything claimed, as applied to claims 2, 15, 21, and 30, respectively. However, Ito '221 fails to disclose the specific type of optical recording medium, as well as the specific structure and format thereof.

In the same field of endeavor, the AAPA discloses where the optical recording medium is a single layer Blu-ray disc of writable once type having an inner spare area and an outer spare area assigned thereto (§s 3-5), and the defect list information includes writing location information of the inner spare area available for successive replacement writing of replacement data, and writing location information of the outer spare area available for successive replacement writing of replacement data (§ 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the invention of Ito '221 with the optical recording medium of the AAPA, for the purpose of managing defect information on next generation optical recording mediums (§s 3-8). However, Ito '221, in view of the AAPA, fails to disclose where the optical recording medium is a dual layer type.

In the same field of endeavor, Ito '909 discloses where the optical recording medium is a dual layer type (figure 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Ito '221 with Ito '909, for the purpose of improving the reliability of data by providing additional spare areas (§ 90).

10. Claims 18 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito '221, in view of Ito et al (US Patent 4,404,357; hereinafter Ito '357).

Regarding claims 18 and 33, Ito '221 discloses everything claimed, as applied to claims 15 and 30, respectively. However, Ito '221 fails to disclose where the disc definition structure information includes physical sector number information corresponding to a writing location of the defect list information.

In the same field of endeavor, Ito '357 discloses where the disc definition structure information includes physical sector number information corresponding to a writing location of the defect list information (col. 1, lines 42-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Ito '221 with Ito '357, for the purpose of specifying the structure of the optical recording medium (col. 1, lines 24-28).

#### ***Allowable Subject Matter***

11. Claims 13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, either alone or in combination, fails to teach or fairly suggest where the defect list information written previously and newly written defect list information are put into different groups for defect management *if all of the defect entries exceed one cluster recording size due to an increase of the defect entries* in combination with the other limitations in the preceding claims.

***Citation of Relevant Prior Art***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Maeda (US Patent 5,343,456) discloses where a cluster comprises a predetermined number of sectors representing a recording unit (col. 8, line 61 through col. 9, line 6).

***Closing Remarks/Comments***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Danielsen whose telephone number is (571)272-4248. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A.L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrea L. Wellington/  
Supervisory Patent Examiner, Art Unit  
2627

Nathan Danielsen  
11/19/2008